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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,198	12/26/2000	Jocelyn Chow	91436-270	1325

7590 03/24/2004

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EXAMINER

KADING, JOSHUA A

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 03/24/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/746,198

Applicant(s)

CHOW ET AL.

Examiner

Joshua Kading

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 8 is objected to because of the following informalities:

Claim 8 discloses "computer readable instructions". Computer readable instructions cannot be claimed independent of a computer readable medium and a system in which the instructions can operate. See MPEP § 2104.04.1. Claim 8 should make the following changes:

Lines 3-4, "with memory storing computer readable instructions" should be changed to --with a memory storing computer readable medium having instructions--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admitted prior art (AAPA).

Regarding claim 1, AAPA discloses "a method of allocating a plurality of data frames amongst a plurality of basestations, said plurality of data frames spanning an interval of time, said method comprising:

for each of said plurality of basestations allocating a sub-set of said plurality of data frames, said sub-set being contiguous in time within said interval of time (figure 2, where the data frames of figure 2 are allocated according to the description on page 4, lines 13-17)."

Regarding claim 2, AAPA discloses "the method of claim 1 wherein each of said plurality of basestations operates using the same carrier frequency (page 4, line 17 and page 5, line 9 where although page 4 discloses more than one frequency, page 5 discloses that each of the base stations in a group uses the same frequency)."

Regarding claim 3, AAPA discloses "the method of claim 2 wherein said data frame are timeslots in a Time Division Multiple Access (TDMA) wireless network (page 3, line 20 describes the system as being that of TDMA)."

Regarding claim 4, AAPA discloses "the method of claim 1 wherein said plurality of basestations form part of a TDMA wireless network employing at least one of the

Enhanced Data rates for Global Evolution (EDGE) and EDGE Compact standards
(page 2, lines 6-9)."

Regarding claim 5, AAPA discloses "the method of claim 1 further comprising:

5 wherein said each of said plurality of basestations operates using a plurality of
frequencies, allocating to each of said plurality of basestations a sub-set of said plurality
of data frames for each of said plurality of frequencies used by a basestation, said
sub-set of said plurality of data frames being contiguous in time within said interval of
time (page 4, lines 13-17)."

10

Regarding claim 6, AAPA discloses "a method of allocating a bitmap of resources
in a wireless network amongst a plurality of co-channel basestations, said bitmap
formed by a group of data frames, said method comprising:

dividing said bitmap of resources into sub-bitmaps, each of said sub-bitmaps
15 formed by a contiguous portion of said group of data frames, each of said sub-bitmaps
not overlapping in time with any other of said sub-bitmaps (figure 2 where the frame
groupings are described on page 4, lines 13-17); and

allocating at least one of said sub-bitmaps to each of said plurality of co-channel
basestations (page 4, lines 13-17)."

20

Regarding claim 11, AAPA discloses "a method of allocating wireless network resources amongst a plurality of basestations, said wireless network resources comprising a group of data frames, said method comprising:

5 receiving requests for wireless network resources from said plurality of
basestations (page 4, lines 25-26);
responsive to said requests, assigning to each of said plurality of basestations a
portion of said wireless resources, said portion comprising a group of said data frames,
said group of said frames being contiguous in time (page 4, lines 23-26)."

10 Regarding claim 12, AAPA discloses "a method for coordinating operation of a
plurality of basestations, each of said basestations operating with the same carrier
frequency, said method comprising:

for a given time period, allocating a contiguous portion of said given time period
to each of said plurality of basestations (page 4, lines 13-17); and
15 transmitting to each of said plurality basestations data identifying said contiguous
portion of said given time period allocated to a basestation (page 4, line 15 where the
timeslots of each frame identify the when a time period allocated to a given base
station)."

20 ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

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5 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA).

10 Regarding claim 8, AAPA discloses "...receive instructions indicating a time period during which said basestation may communicate with mobilestations to be serviced by said basestation, said time period defined by a contiguous set of data frames (page 14, lines 13-17 where because the timeslots identify the time period when

15 a base station may communicate with a mobile station, both mobile station and base station must know the period of time allowed for each slot, therefore the "instructions" identifying the time period must be received at some point); and

transmit to each of said mobilestations to be serviced by said basestation data identifying a portion of time during which a mobilestation may communicate with said

20 basestation; and communicate with said mobilestations during said time period (page 14, lines 13-17 where the timeslots identify when the mobile station may communicate)."

AAPA lacks "a computer readable medium having instructions" to carryout the above steps of claim 8.

25 Although AAPA does not explicitly disclose the computer instructions, it would have been obvious to one with ordinary skill in the art at the time of invention to have

the steps of claim 8 executed by a set of computer instructions. The motivation being that the only feasible way to process and manage data of such short time periods as in a TDMA system efficiently, is to do it by computer instructions.

5 Regarding claim 9, AAPA discloses the steps of claim 8. Although AAPA explicitly lacks the computer readable medium to store the computer instructions to carryout said steps, AAPA further discloses "indicating a time period during which said basestation may communicate are defined by a group of timeslots, said group of timeslots defining a sub-bitmap (page 14, lines 13-17 where the timeslots identify when
10 the base station may communicate)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the time period during which a base station may communicate with the steps of claim 8 for the same reasons and motivation as in claim 8.

15 Regarding claim 10, AAPA discloses the steps of claim 9. Although AAPA explicitly lacks the computer readable medium to store the computer instructions to carryout said steps, AAPA further discloses "receive instructions defining a plurality of sub-bitmaps (page 4, lines 13-17 where the sub-bitmaps are defined by the grouping of frames in figure 2); and allocate each of said plurality of sub-bitmaps to a sector
20 serviced by said basestation (page 4, lines 13-17)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the receiving instructions

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defining a plurality of sub-bitmaps and the allocating each sub-bitmaps to a base station with the steps of claim 9 for the same reasons and motivation as in claim 9.

Regarding claim 14, AAPA discloses "...dividing said bitmap of resources into
5 sub-bitmaps, each of said sub-bitmaps formed by a contiguous portion of said group of data frames, each of said sub-bitmaps not overlapping in time with any other of said sub-bitmaps (figure 2 where the frame groupings are described on page 4, lines 13-17); and

allocating at least one of said sub-bitmaps to each of said plurality of co-channel
10 basestations (page 4, lines 13-17)."

AAPA lacks "a computer readable medium having instructions" to carryout the above steps of claim 14.

Although AAPA does not explicitly disclose the computer instructions, it would have been obvious to one with ordinary skill in the art at the time of invention to have
15 the steps of claim 14 executed by a set of computer instructions. The motivation being that the only feasible way to process and manage data of such short time periods as in a TDMA system efficiently, is to do it by computer instructions.

Claims 7, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable
20 over AAPA in view of Jokinen et al. (U.S. Patent 5,729,534).

Regarding claims 7 and 15, AAPA discloses the method of claims 6 and 14.

AAPA lacks "form the size of each of said sub-bitmaps responsive to at least one of: service loads for each of said plurality of co-channel basestations during at least one previously allocated bitmap; and service demands for each of said plurality of

5 co-channel basestations during at least one previously allocated bitmap."

However, Jokinen discloses "form the size of each of said sub-bitmaps responsive to at least one of: service loads for each of said plurality of co-channel basestations during at least one previously allocated bitmap; and service demands for each of said plurality of co-channel basestations during at least one previously allocated
10 bitmap (col. 3, lines 45-48 where the service load is inadequate, so more slots are assigned)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the forming the size of each sub-bitmaps based on service load conditions with the methods of claims 6 and 14 for the purpose of allowing a minimum
15 level of service for the communication channel. The motivation being that a minimum level of service guarantees a communication link always (Jokinen, col. 4, lines 45-59).

Regarding claim 13, AAPA discloses the method of claim 12. AAPA lacks "...determining the service load for at least some of said plurality of basestations; and
20 wherein the size of said contiguous portions assigned to said each of said plurality of basestations is proportional to said service loads determined."

However, Jokinen discloses "...determining the service load for at least some of said plurality of basestations; and wherein the size of said contiguous portions assigned to said each of said plurality of basestations is proportional to said service loads determined (col. 3, lines 45-48 where the service load is inadequate, so more slots are
5 assigned)."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the determining the service load and forming a size of the contiguous portions based on the service load with the method of claim 12 for the purpose of allowing a minimum level of service for the communication channel. The
10 motivation being that a minimum level of service guarantees a communication link always (Jokinen, col. 4, lines 45-59).

Conclusion

The prior art made of record and not relied upon is considered pertinent to
15 applicant's disclosure. Kay et al. (U.S. Patent 5,299,198) shows frames consisting of time slots and requests for allocation reservations. Schulz (U.S. Patent 5,648,967) and Merakos et al. (U.S. Patent 5,521,925) both show a plurality of frames made up of a plurality of time slots. Hamalainen et al. (U.S. Patent 5,640,395) shows frames made of time slots and frames sized according to service load.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



15

JK
March 17, 2004



KENNETH VANDERPUYE
PRIMARY EXAMINER

Joshua Kading
Examiner
Art Unit 2661